

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A method of filling a gap defined by adjacent raised features on a substrate, comprising:
 - providing a flow of a silicon-containing processing gas to a chamber housing the substrate;
 - providing a flow of an oxidizing gas to the chamber;
 - depositing a first portion of a film as a substantially conformal layer in the gap by causing a reaction between the silicon-containing processing gas and the oxidizing gas, wherein depositing the conformal layer comprises varying over time a ratio of the (silicon-containing processing gas):(oxidizing gas) and regulating the chamber to a pressure in a range from about 200 torr to about 760 torr throughout deposition of the conformal layer;
 - thereafter, depositing a second portion of the film as a bulk layer, wherein depositing a second portion of the film comprises maintaining the ratio of the (silicon-containing processing gas):(oxidizing gas) substantially constant throughout deposition of the bulk layer and regulating the chamber to a pressure in a range from about 200 torr to about 760 torr throughout deposition of the bulk layer; and
 - thereafter, exposing the substrate to nitrous oxide at a temperature less than about 900°C to anneal the deposited film.
2. (Original) The method of claim 1, wherein exposing the substrate to nitrous oxide at a temperature less than about 900°C to anneal the deposited film comprises exposing the substrate to nitrous oxide at a temperature less than about 750°C to anneal the deposited film.
3. (Original) The method of claim 1, further comprising thereafter planarizing the film.
4. (Original) The method of claim 3, wherein planarizing the film comprises subjecting the film to chemical mechanical polishing.

5. (Previously Presented) A method of forming isolation structures in a silicon substrate, comprising:
etching trenches in the substrate;
providing a flow of a silicon-containing processing gas to a chamber housing the substrate;

providing a flow of an oxidizing gas to the chamber;
causing a reaction between the silicon-containing processing gas and the oxidizing processing gas to form a silicon oxide layer at least in part by:

depositing a first portion of a film as a substantially conformal layer in the trenches by causing a reaction between the silicon-containing processing gas and the oxidizing gas, wherein depositing the conformal layer comprises varying over time a ratio of the (silicon-containing processing gas):(oxidizing gas) and regulating the chamber to a pressure in a range from about 200 torr to about 760 torr throughout deposition of the conformal layer; and

thereafter, depositing a second portion of the film as a bulk layer, wherein depositing a second portion of the film comprises maintaining the ratio of the (silicon-containing processing gas):(oxidizing gas) substantially constant throughout deposition of the bulk layer and regulating the chamber to a pressure in a range from about 200 torr to about 760 torr throughout deposition of the bulk layer;

heating the substrate in the presence of nitrous oxide; and
thereafter, planarizing the layer.

6. (Original) The method of claim 5, wherein planarizing the layer comprises subjecting the layer to chemical mechanical polishing.

7. (Canceled)

8. (Previously Presented) The method of claim 5, wherein heating the substrate in the presence of nitrous oxide comprises exposing the substrate to nitrous oxide at a temperature less than about 900°C to anneal the deposited film.

9 - 23 (Canceled)